



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,948	02/21/2002	Tim Forrester	UTL 00077	1391

7590 06/09/2004

Attn: Patent Department
Kyocera Wireless Corp.
PO Box 928289
San Diego, CA 92192-8289

EXAMINER

AMINZAY, SHAIMA Q

ART UNIT	PAPER NUMBER
----------	--------------

2684

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/080,948

Applicant(s)

FORRESTER, TIM

Examiner

Shaima Q. Aminzay

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications: Application filed on 02/12/2002.
2. Independent Claims 1, 19, 24, 26, dependent claims 18, 20-23, 25, and 27-35 are pending in the case.
3. The present title of the application is "System and method for providing GPS-enabled wireless communications".

NON-FINAL ACTION

Claim Rejections - 35 USC § 102

◆ The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

◆ Claims 1-5, 7-8, 19-21, 23-24, and 26-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Howell U. S. Patent number 6542119 B2.

4. Regarding claims 1, 2, Howell discloses a handheld wireless communications device (see for example, column 2, lines 57-60), comprising: a first antenna (see for example, Figure 2, antenna 212); a second antenna (see for example, Figure 2, antenna 216); a switching module (Figure 2, 202) coupled to the first antenna and to the second antenna (see for example, Figure 2, switch 220 is coupled with

antenna 212, and 216); and a global positioning system (GPS) module coupled to the first antenna or the second antenna via the switching module (see for example, Figure 2, the switching module 202 (switch 220, 224, and 226) is coupled with antenna 212, and 216), wherein the switching module is adapted to couple the GPS module (see for example, Figure 2, GPS receiver 200) to the first antenna or the second antenna as a function of a GPS reception characteristic of the first antenna or the second antenna (see for example, Figure 2, and column 3, lines 34-43).

5. Regarding claim 19, 20, 21, 23, and 25. Howell discloses claim 24, and further discloses a system for providing wireless communications device (see for example, column 2, lines 57-60), comprising: a first antenna (see for example, Figure 2, antenna 212); a second antenna (see for example, Figure 2, antenna 216); a GPS module (see for example, Figure 2, GPS module 200); means for selecting one of the first antenna or the second antenna for use in receiving GPS information as a function of GPS receiving characteristics of the first antenna or the second antenna (see for example, Figure 2, switch module 202 (switch 220, 224, and 226), and column 3, lines 34-43); and means for coupling the received GPS information to a GPS module via one of the first antenna or the second antenna as selected by the selecting means (see for example, Figure 2, and column 3, lines 34-43, the switching means coupling the GPS received information via the first or second antenna to the GPS module), and the GPS

module simultaneously use different antennas (see for example, Figure 2, and Figure 3, columns 3, lines 65-67 continued to column 4, lines 1-10).

6. Regarding claim 24, Howell discloses a global positioning system (GPS) enabled wireless communications device (see for example, column 2, lines 57-60), comprising the steps of: (a) selecting a first antenna or a second antenna for use in receiving GPS information as a function of GPS receiving characteristics of the first antenna or the second antenna (see for example, Figure 2, and column 3, lines 34-43); and (b) coupling the GPS information to a GPS signal processor via one of the first antenna or the second antenna as selected in step (a) (see for example, Figure 2, column 1, lines 58-61, and column 3, lines 34-43, the switching means coupling the GPS information via the first or second antenna to the GPS signal processing module).
7. Regarding claim 26, Howell discloses a global positioning system (GPS) enabled wireless communications (see for example, column 2, lines 57-60), comprising the steps of: (a) coupling a GPS module to a first antenna (212) via a diversity switch (see for example, Figure 2, switch module 202 (diversity switch 220, 224, and 226)); (b) evaluating a GPS reception characteristic of the first antenna (see for example, column 3, lines 35-43); (c) coupling the GPS module to a second (216) antenna via the diversity switch (see for example, Figure 2, switch module 202 (diversity switch 220, 224, and 226)); (d) evaluating the GPS reception characteristic of the second antenna (see for example, column 3, lines 35-43); (b) evaluating a GPS reception characteristic of the first antenna (see for

example, column 3, lines 35-43); and (e) coupling the GPS module to the second antenna instead of the first antenna via the diversity switch (see for example, column 3, lines 35-43, and Figure 2, switch module 202 (diversity switch 220, 224, and 226)).

8. Regarding claim 27, Howell discloses claim 26, and further discloses coupling the GPS module to the second antenna instead of the first antenna via the diversity switch if the GPS reception characteristic of the second antenna is better than the GPS reception characteristic of the first antenna (see for example, column 3, lines 25-64, and Figure 2, switch module 202 (diversity switch 220, 224, and 226)).
9. Regarding claim 28, Howell discloses claim 26, and further discloses includes the step of coupling the GPS module to the second antenna instead of the first antenna via the diversity switch if the GPS reception characteristic of the first antenna becomes poor (see for example, column 3, lines 25-64, and Figure 2, switch module 202 (diversity switch 220, 224, and 226)).
10. Regarding claim 29, Howell discloses claim 26, and further discloses the GPS reception characteristic of the first antenna (see for example, column 3, lines 35-43).
11. Regarding claim 30, Howell discloses claim 26, and further discloses temporarily coupling the GPS module to the second antenna via the diversity switch to sample the GPS signal (see for example, column 1, lines 58-61, and column 3, lines 25-45).

12. Regarding claim 3, 4, and 5, Howell discloses claim 2, and further discloses a controller coupled to the GPS module and the switching module and the GPS reception characteristic is determined for a particular GPS frequency employed by the GPS module (see for example, column 2, lines 1-2, lines 16-19, column 3, lines 65-66, and column 4, lines 19-26, lines 29-34), and controller includes a mobile station modem (see for example, column 2, lines 49-60).
13. Regarding claim 7, and 8, Howell discloses claim 1, and further discloses the first antenna is not disposed in a same direction as the second antenna and the first antenna is disposed approximately orthogonally with respect to the second antenna (see for example, Figure 2, antenna 212 (first) and antenna 216 (second) directions).

Claim Rejections - 35 USC § 103

- ◆ The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- ◆ Claims 6, 9, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howell U. S. Patent number 6542119 B2, and in view of Dooley et al. U. S. Patent number 6525689.

14. Regarding claim 6, Howell discloses claim 1. However, Howell does not disclose the GPS reception characteristic includes GPS signal strength, GPS signal clarity or GPS bit error rate (BER)

Dooley discloses the GPS reception characteristic includes GPS signal strength, GPS signal clarity (see for example, column 5, lines 60-62, and column 6, lines 26-28).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Dooley's improved GPS signal received at mobile unit (see for example, column 1, lines 59-61) with Howell's "use of multiple antennas for detecting GPS signal" (column 1, lines 12-13) to provide "a mobile unit comprising a GPS receiver for receiving the GPS signal; a communications receiver for receiving GPS signal information from a base station; and a processor arranged to modify the GPS signal information so as reflect the GPS signal characteristics as would be observed at an estimated location of the mobile unit" (Dooley, column 3, lines 7-12).

15. Regarding claim 9, 10, and 11, Howell discloses claim 1. However, Howell does not disclose GPS module includes a matching circuit and a low noise amplifier, and the matching circuit optimizes GPS signal characteristics including signal strength over the first antenna or the second antenna.

Dooley discloses amplification and the GPS signal information such as signal

strength and other characteristics (see for example, column 6, lines 20-28).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Dooley's improved GPS signal received at mobile unit (see for example, column 1, lines 59-61) with Howell's "use of multiple antennas for detecting GPS signal" (column 1, lines 12-13) to provide "a mobile unit comprising a GPS receiver for receiving the GPS signal; a communications receiver for receiving GPS signal information from a base station; and a processor arranged to modify the GPS signal information so as reflect the GPS signal characteristics as would be observed at an estimated location of the mobile unit" (Dooley, column 3, lines 7-12).

Claim Rejections - 35 USC § 103

◆ The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

◆ Claims 12-18, 22, and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howell U. S. Patent number 6542119 B2, and in view of and in view of Meredith U. S. Patent number 6052605.

16. Regarding claims 12, 13, 14, 31, 32, 33, and 34, Howell discloses claims 1, and 26. However, Howell does not disclose a duplexer coupled to the switching module; a receiver module coupled to the duplexer; and a transmitter module coupled to the duplexer, wherein the switching module is adapted to couple the duplexer to the first antenna or the second antenna as a function of a communications reception characteristic or a communications transmission characteristic of the first antenna or the second antenna.

Meredith discloses duplexer (Figure 1, 206) coupled to the switching module (see for example, Figure 1, receiver modular interconnect to the matrix switch 200, column 4, lines 60-64, and column 5, lines 21-24); a receiver module (Figure 1, receiver module 200) coupled to the duplexer (Figure 1, 202); and a transmitter module (Figure 1, transmitter module 900) coupled to the duplexer (Figure 1, 202), wherein the switching module is adapted to couple the duplexer to the first antenna or the second antenna as a function of a communications reception characteristic or a communications transmission characteristic of the first antenna or the second antenna (see for example, Figure 1, column 4, lines 3 through column 5 lines 49).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Meredith's utilizing duplexers in a mobile communication system (see for example, column 1, lines 6-8, Figure 1, and column 4, lines 60-64) with Howell's "use of multiple antennas for detecting GPS signal" (column 1, lines 12-13) to provide a mobile communication with "improved

assessment of potential interference during communication between mobile radio units and land mobile radio base sites of a land mobile radio system” (Meredith, column 1, lines 56-59).

17. Regarding claims 15, 16, 17, 18, 22, and 35, Howell discloses claims 1, 19, 26, and 33. However, Howell does not disclose a first communications band module coupled to the diplexer and a second communications band module coupled to the diplexer, wherein the switching module is adapted to couple the diplexer to the first antenna or the second antenna as a function of a communications reception characteristic or a communications transmission characteristic of the first antenna or the second antenna.

Meredith discloses a first communications band module coupled to the diplexer and a second communications band module coupled to the diplexer, wherein the switching module is adapted to couple the diplexer to the first antenna or the second antenna as a function of a communications reception characteristic or a communications transmission characteristic of the first antenna or the second antenna (see for example, column 4, lines 3-67, and column 5, lines 1-49).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Meredith's utilizing duplexers in a mobile communication system (see for example, column 1, lines 6-8, Figure 1, and column 4, lines 60-64) with Howell's "use of multiple antennas for detecting GPS

signal" (column 1, lines 12-13) to provide a mobile communication with "improved assessment of potential interference during communication between mobile radio units and land mobile radio base sites of a land mobile radio system" (Meredith, column 1, lines 56-59).


18.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 form.

Inquiry


2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaima Q. Aminzay whose telephone number is 703-305-8723. The examiner can normally be reached on 7:00 AM -5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service telephone number is 703-305-3900.


Shaima Q. Aminzay
(Examiner)

Jun 1, 2004

Nay Maung
(SPE)

Art Unit 2684


EDWARD F. URBAN
JUNIOR PATENT EXAMINER
BIOLOGY CENTER 2600